Kavikulaguru Kalidas Sanskrit University, Ramtek
Program Structure
Name Of the Program:- Certificate Program in Computer Application

Program Curriculum (Syllabus)

Approved by the BoS No. 01./2018, dt. 01/12/2018, Item No.3
(Onwards 2019-20)

1	**Name of the Program**	**Certificate Program in Computer Application**
2	**Program Code**	CPCA
3	**Program Abbreviation**	CPCA
4	**Program Level (PG/ UG/ PG Diploma/ Diploma/ Certificate etc.**	Certificate Program
5	**Subject**	Computer
6	**Name of the Faculty**	Shikshana Shastra Tatha Sankirna Vidyashakha
7	**Name of the Board of Study**	Computer Science and Application
8	**Name of the Departmment**	Sankirna vidyashakha
9	**Assessment Type**	Theory & Practical
10	**Examination Type & Paper Pattern**	One Semester & 100
11	**Separate Passing**	Yes, 35% in each section (Theory 100 Marks -35 Passing Marks, Internal 20 Marks-07 Passing Marks, Practical 50 Marks- 18 Passing Marks)
12	**Program Type**	Regular
13	**Program Duration**	Six Months
14	**Program Description**	Six Months, Four Theory Courses having 100 Marks & Two Practical Courses having 50 Marks

15	**Program Objectives**	1. To familiarize with basics of information technology. 2. To develop basic skills of using tools for word processing, presentation and database management. 3. To develop an understanding of how computers store and process data. 4. To access global information sources with communication effects by the use of technology based tools. 5. To develop mastery over basic operational skills over functions of the operating system and computer systems. 6. To exhibit skills in the use of technology to gather, process and analyse data for preparation of reports through Multimedia presentation. 7. To develop the ability to describe the major components of computer hardware, their functions 8. To develop an understanding of the fundamental concepts of programming and the ability to apply the same. 9. To acquire knowledge and understanding of the terms, symbols, concepts, principle, activities and operations. 10. To create an awareness of ethical issues related to computing.
16	**Program Outcome**	At the end of the Program, students will be able to: CPCA equips the students with skills required for designing, developing applications in Information Technology. Students will able to learn the latest trends in various subjects of computers & information technology.
17	**Total Credits (Minimum and Maximum Credits)**	20
18	**Intake Capacity (One Batch)**	10
19	**Medium of Instruction**	English
20	**Medium of Examination**	English
21	**External Students Admission**	No
22	**Age Limit (if required)**	20
23	**Eligibility**	12th Pass/ equivalent

	24	**Total Marks**				500								
	25	**Note**												

Course Code	Course Title	No. of Lecture (*L) hours per week	Tutorial (*T)/ Practical (*P) per week	Internal (Pr/ Desr / Viva/ Oral/ Test/ Sessional etc.)		Theory		Other		Subject Total (in case of joint passing)		No. of Credits (if Credit System is applicable)
				A		**B**		**C**		**A + B + C**		
				Max	Passing	Max	Passing	Max	Passing	Max	Passing	
Six Months												
CPCA-1	Computer Fundamental	4	0	20	7	80	28	0	0	100	35	4
CPCA-2	PC Packages	4	0	20	7	80	28	0	0	100	35	4
CPCA-3	Desktop Publishing	4	0	20	7	80	28	0	0	100	35	4
CPCA-4	Programming In C	4	0	20	7	80	28	0	0	100	35	4
CPCA-5	Practical & Viva- Programming In C	2	50					0	0	50	18	2
CPCA-6	Practical & Viva- Practical in DTP Packages	2	50					0	0	50	18	2

Name of the Faculty- Shikshana Shastra Tatha Sankirna Vidyashakha
Programme - Certificate Program in Computer Application

Eligibility   :- 12th pass/any equivalent
Medium   :- English
Duration   :- Six Months
Total Marks   :- 500

Credit Points:- Total credits for 20 Programme. 4 Credits for per course for Practical 02 Credits. I Credit is construed as sponding to approximately 30 to 40 learning hours.

The performance of the learners shall be evaluated into two components. The learner's performance shall be assessed by Internal Assessment with 20% marks in the first component by conducting the Semester End Examinations with 80% marks in the second component. The allocation of marks for the Internal Assessment and Examinations are as shown below :-

a) Internal Assessment - 20% for 04 courses.

Sr. No.	Particulars	Marks
1	One periodical class test held in the given semester	

2	Subject specific Term Work Module / Assessment modes - at least two - as decided by the department in the beginning of the Semester (like Extension / field / Experimental work, Short Quiz; Objective test, lab practical, open book test etc and written assignments, Case study, Projects, Posters and exhibits etc. for which the assessment is to be based on class presentations wherever applicable) to be selflessly assessed by the teacher/s concerned.	
3	Active participation in routine instructional deliveries (and in practical work, tutorial, field work etc as the case may be)	
4	Overall conduct as a responsible learner, mannerism and articulation and exhibit of leadership qualities in organizing related academic activities.	

Course Detail

1	**Course Name**	Certificate Program in Computer Application
2	**Course Code**	CPCA
3	**Course Level- PG/ UG/ PG Diploma/ Diploma/ Certificate etc.**	Certificate Program
4	**Course Mode- Text Reading/ Practical/ Laboratory**	Text Reading and Practical
5	**Course Type-** a) Elective Hard Core b) Elective Soft Core c) Foundation d) Compulsory	d) Compulsory
5	**Course Credits**	20
6	**Course Objective**	
7	**Course Outcome**	
8	**Course Prerequisite**	NA
9	**Focus Of the Course (For Teachers)**	

Name of the Program -Certificate Program in Computer Application

Internal Assessment 20 marks		
1. Practical, Assignment/Seminar and Attendance 10+ 05 +05		

Paper Pattern			Question out of	Per Question Marks
Q.1 Long Answer			3 Out of 05	03 X 15 = 45 Marks
Q.2 Short Answer			2 Out of 04	02 X 10 = 20 Marks
Q.3 Notes			3 Out of 05	03 X 05 =15 Marks
List of Reference Book & syllabus :- Separate attached				

Certificate Program in Computer Application
06 Months Program

First Course - Computer Fundamental

PROGRAM OBJECTIVES -

1. To familiarize with basics of information technology.

2. To develop basic skills of using tools for word processing, presentation and database management.

3. To develop an understanding of how computers store and process data.

4. To access global information sources with communication effects by the use of technology based tools.

5. To develop mastery over basic operational skills over functions of the operating system and computer systems.

6. To exhibit skills in the use of technology to gather, process and analyse data for preparation of reports through

   Multimedia presentation.

7. To develop the ability to describe the major components of computer hardware, their functions

8. To develop an understanding of the fundamental concepts of programming and the ability to apply the same.

9. To acquire knowledge and understanding of the terms, symbols, concepts, principle, activities and operations.

10. To create an awareness of ethical issues related to computing.

PROGRAM OUTCOMES -

At the end of the Program, students will be able to:

CPCA equips the students with skills required for designing, developing applications in Information Technology. Students will able to learn the latest trends in various subjects of computers & information technology.

Hours-03   **Total Marks -100**

Unit 1:   Brief History of Development of Computers ,Computer System Concept, Computer System Characteristics, Capabilities and Limitations, Types of Computers-., Personal Computer (PCs) - IBM PCs, Types of PCs- Desktop, Laptop, Notebook, Palmtop, etc. Basic Components of a Computer System - Control Unit, ALU, Input/output semiconductor Memory. Storage fundamentals - Primary Vs Secondary memory.

Unit-2   Input Devices: Keyboard, Mouse, Joystick, Scanners, Digital Camera, MICR,OCR, OMR, , Light pen, Touch Screen. Output Devices Monitors - Characteristics and types of monitor, Size,

Resolution, Refresh Rate, Dot Pitch, Video Standard - VGA, SVGA, XGA etc. Printers - Daisy wheel, Dot Matrix, Inkjet, Laser. Plotter, Sound Card and Speakers

Unit-3   Various Storage Devices - Magnetic Disks, Hard Disk Drives, Floppy, Disks, Optical Disks, Computer Software ,Need, Types of Software's - System software, Application software System Software - Operating System, compiler ,Assemblers, Interpreter .

Unit -4   Operating Systems -Functions ,Types- Batch, Single, Multiprogramming, Multiprocessing Programming languages Machine, Assembly, High Level, 4GL, Application Software - Word-processing, Spreadsheet, Presentation Graphics, Data Base Management Software, Number System, Number System of computers- Binary, Octal, Hexadecimal, their conversion. Coding System - ASCII, EBCDIC.

Unit -5   Direction of Transmissions Flow-Simplex, Half Duplex Full Duplex, Types of Network - LAN, WAN, MAN etc. Topologies of LAN - Ring, Bus, Star, Mesh and Tree topologies. Computer Virus: Virus working principals, Types of viruses, Virus detection and Prevention Viruses on network.

Text & Reference Books :

1. Computers Today by S.K. Basandra, Galgotia Publications. Fundamentals of Information Technology by Alexis Leon & Mathews Leon, Vikas Publishing House, New Delhi. Dos Quick Reference By Rajeev Mathur, Galgotia Publications
2. Rajaraman, Fundamentals of Computers, Fourth edition, Prentice Hall India Pvt. Limited, 2006.
3. Computer Fundamental, P.K Sinha, 4th Edition, BPB PUBLICATION 2007.
4. Fundamentals of Information Technology, Chetan Srivastva, Third edition, Kalayani Publishers, 2008.
5. Computers, Larry long & Nancy long, 12th edition, Prentice Hall, 2005.

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Certificate Program in Computer Application
06 Months Program
Second Course - PC Packages
(Windows, MS Word, MS Excel, MS Power point)

Hours -03   Total Marks -100

Unit 1:   **MS Windows:** Introduction to MS Windows; Features of Windows; Various versions of Windows
              & its use; Working with Windows; My Computer & Recycle bin ; Desktop, Icons and Windows
              Explorer; Screen description & working styles of Windows; Dialog Boxes & Toolbars; Working
              with Files & Folders; simple operations like copy, delete, moving of files and folders from one drive
              to another, Shortcuts & Auto starts; Accessories and Windows Settings using Control Panel- setting
              common devices using control panel, modem, printers, audio, network, fonts, creating users, internet
              settings, Start button & Program lists; Installing and Uninstalling new Hardware & Software
              program on your computer.

Unit-2   **Office Packages:** Office activates and their software requirements, Word-processing, Spreadsheet,
              Presentation graphics, Database, introduction and comparison of various office suites like MS-
              Office, Lotus-Office, Star-Office, Open-Office etc. MS Word Basics: Introduction to MS Office,
              Introduction to MS Word, Features & area of use. Working with MS Word, Menus & Commands,
              Toolbars & Buttons, Shortcut Menus, Wizards & Templates, Creating a New Document, Different
              Page Views and layouts, Applying various Text Enhancements, Working with -Styles, Text
              Attributes, Paragraph and Page Formatting, Text Editing using various features ; Bullets,
              Numbering, Auto formatting, Printing & various print options.

Unit-3   **Advanced Features of MS-Word:** Spell Check, Thesaurus, Find & Replace; Headers & Footers,
              Inserting - Page Numbers, Pictures, Files, Auto texts, Symbols etc., Working with Columns, Tabs
              & Indents, Creation & Working with Tables including conversion to and from text, Margins &
              Space management in Document, Adding References and Graphics, Mail Merge, Envelops &
              Mailing Labels. Importing and exporting to and from various formats.

Unit -4   **MS Excel:** Introduction and area of use, Working with MS Excel, concepts of Workbook &
              Worksheets, Using Wizards, Various Data Types, Using different features with Data, Cell and
              Texts, Inserting, Removing & Resizing of Columns & Rows, Working with Data & Ranges,
              Different Views of Worksheets, Column Freezing, Labels, Hiding, Splitting etc., Using different
              features with Data and Text; Use of Formulas, Calculations & Functions, Cell Formatting including
              Borders & Shading, Working with Different Chart Types; Printing of Workbook & Worksheets with
              various options.

Unit -5   **MS Power Point:** Introduction & area of use, Working with MS PowerPoint, Creating a New
              Presentation, Working with Presentation, Using Wizards; Slides & its different views, Inserting,

Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists, Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects, Designing & Presentation of a Slide Show, Printing Presentations, Notes, Hand outs with print options. Outlook Express: Features and uses, Configuration and using Outlook Express for accessing e-mails in office.

Text & Reference Books:

1. Windows XP Complete Reference. BPB Publications

2. Ms Office XP Complete BPB Publication

3. MS Windows XP Home Edition Complete, Bpb Publication.

4. Joe Habraken, Microsoft Office 2000, 8 In 1, By, Prentice Hall Of India

5. I.T .Tools And Applications, By A. Mansoor, Pragya Publications, Matura

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Certificate Program in Computer Application
06 Months Program
Third Course -Desktop Publishing
(Page Maker, Photoshop)

Hours -03   **Total Marks -100**

Unit 1:   D.T.P For Publications Introductions to Printing, Types of Printing, Offset Printing, Working of offset Printing, Transparent Printout, Negative & Positives for Plate were making, Use of Desk Top Publishing in Publications, Importance of D.T.P in Publication, Advantage of D.T.P in Publication, Mixing of graphics & Image in a single page production, Laser printers - Use, Types, Advantage of lager printer in publication.

Unit-2   Page Layout Different page format / Layouts, Newspaper page format, Page orientations, Columns & Gutters, Printing in reduced sizes. Introductions To Page Maker Page Maker Icon and help, Tool Box, Styles, Menus etc., Different screen Views, Importing text/Pictures, Auto Flow, Columns.

Unit-3   Master Pages and Stories, Story Editor, Menu Commands and short-cut commands, Spell check, Find & Replace, Import Export etc., Fonts, Points Sizes, Spacing etc., Installing Printers, Scaling (Percentages), Printer setup Use of D.T.P. in Advertisements, Books & Magazines, News Paper, Table Editor.

Unit -4   Introduction to Adobe Photoshop & Documents, Various Graphic Files and Extensions, Vector Image and Raster Images, Various Colour Modes and Models.

Unit -5   Introduction to Screen and Work Area, Photoshop Tools &Palettes, Use of Layers & Filters, Working with Images.

Text & Reference Books:

   1. Page Maker 4.0 & 5.0 By B.P.O. Publications.

   2. Prakhar Complete Course for DTP (CorelDraw, PageMaker, Photoshop)

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Fourth Course - PROGRAMMING IN C

Hours -03   **Total Marks -100**

Unit 1:   Fundamentals of C: I/O statements, Assignment Statements, Constants, Variables, Operators and Expressions, Standards and Formatted statements, Keywords, Data Types and Identifiers. Control Structures: Introduction, Decision making with if - statement, if-else and Nested if, while and do-while, for loop. Jump statements: break, continue, go to, switch Statement.

Unit-2   Functions: Defining &Accessing : Passing arguments, Function Prototype, Recursion, Use of

Library Functions, Storage Classes: Automatic, External and Static Variables (Register)

Arrays: Defining & Processing, Passing to a function, Multidimensional Arrays.

String: Operations of Strings (String handling through built-in & UDF: Length, Compare Concatenate, Reverse, Copy, Character Search using array)

Unit-3   Structures: Defining & Processing, Passing to a function, Unions (Array within structure, Array of structure, Nesting of structure, Passing structure and its pointer to UDF, Introduction to Unions and its Utilities). MACROS.

Unit -4   Pointers: Declarations, Passing to a function, Operations on Pointers, Pointers & Arrays, Array of Pointer, Pointer Arithmetic, Array accessing through pointers, Pointer to structure, Pointer to functions, Function returning pointers, Dynamic Memory Allocations.

Unit -5   Data Files: Open, Close, Create, Process Unformatted. Data Files. (Formatted Console I/O functions, Unformatted Console I/O functions, Modes Of Files, Use Of fopen(), fclose(), fgetc(), fputc(), fgets(), fprintf(), fscanf(), fread(),fwrite(), Command Line Arguments). Documentation, debugging, C Processors. Examples illustrating structured program development methodology and use of a block structured algorithmic language to solve specific problems.

Text & Reference Books:

1. Kerninghan& Ritchie: The C Programming Language, PHI.

2. Gottfried, B.: Theory and problems of Programming in C, Schaum Series.

3. Balagurusamy, "Programming in C", 5th Edition, Tata McGraw-Hill Education, 2007

4. YashavantKanetkar, "Let us C", 10 th Edition, BPB publication, 2010

Certificate Program in Computer Application
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Fifth Course - Practical & Viva

Programming in C.   **Marks-50**

Certificate Program in Computer Application
06 Months Program

Sixth Course - Practical & Viva

Practical in DTP Packages.   **Marks-50**